

ABSTRACT

Analog control integrated FET based variable resistors and attenuators using the variable resistors having a wide range of monotonic and substantially linear attenuation with control voltage for use in circuits having AC signals of AC signal frequencies. The variable resistors comprise field effect devices (FETs) biased to operate in their linear region and having their bodies and gates coupled to a reference voltage and a control voltage, respectively, through impedances, typically resistors, having impedances that are higher than the impedances of parasitic capacitances at the signal frequencies. This allows the body and gate of each FET to vary in voltage with the signal to maintain the bias of the FETs in the presence of large signals. Various embodiments are disclosed.